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| 10/016,166      | 11/30/2001  | Bin Zhao             | 12569-15/NEC        | 4798             |

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EXAMINER

JUBA JR, JOHN

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/016,166

Applicant(s)

ZHAO, BIN

Examiner

John Juba

Art Unit

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-- Th MAILING DATE of this communication appears on the cover sheet with th correspond nce address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3,4,6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,4,6 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Information Disclosure Statement*

Applicant's I.D.S. filed March 4, 2003 has been fully considered. The first reference on the second page has been lined-through as not being in proper form.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 3, 4, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Sharp, et al (U.S. Patent number 6,049,367. Sharp, et al disclose a filter assembly suitable for use in wavelength division multiplexing applications (Col. 3, lines 41-45) and having two outputs (e.g., as shown in Figure 26). Thus, the filter assemblies of Sharp, et al fairly comprise "interleavers". Referring to the designs tabulated in Columns 27 and 28, Sharp, et al anticipate the recited arrangement of birefringent elements as follows:

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Claim 3, fourth tabulated row reads on Sharp's "5" retarder design in Table II, where

the first stage retarders are  $2\Gamma(\varphi_3=9^\circ)$ ,  $2\Gamma(\varphi_2=27^\circ)$ ,  $\Gamma(\varphi_1=45^\circ)$  and

the second stage retarders are  $\Gamma(90 - \varphi_3)$ ,  $2\Gamma(90 - \varphi_2)$ ,  $2\Gamma(90 - \varphi_1)$ ,

for components having a state of polarization (SOP) parallel with respect to their SOP at the input to the first stage, at least for one condition of the LCD rotator.

Claim 4, sixth tabulated row reads on Sharp's "5" retarder design in Table II, wherein

the first stage retarders are  $2\Gamma(\varphi_3=9^\circ)$ ,  $2\Gamma(\varphi_2=27^\circ)$ ,  $\Gamma(\varphi_1=45^\circ)$ ;  $m_3=m_2=m_1=0$ ;

the second stage retarders are  $\Gamma(90 - \varphi_3)$ ,  $2\Gamma(90 - \varphi_2)$ ,  $2\Gamma(90 - \varphi_1)$ ;  $k_1=k_2=k_3=0$

For at least one condition of the LCD rotator.

Claim 6, fourth tabulated row reads on Sharp's Table I at (at least) the third entry where (third entry).

the first stage retarders are  $2\Gamma(\varphi_2=80^\circ)$ ,  $\Gamma(\varphi_1=25^\circ)$  and

the second stage retarders are  $\Gamma(90 - \varphi_1)$ ,  $2\Gamma(90 - \varphi_2)$

for components having a state of polarization (SOP) parallel with respect to their SOP at the input to the first stage, at least for one condition of the LCD rotator.

(page formatting error)

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Similarly, claim 6, fourth tabulated row reads on Sharp's Table I, sixth entry

where

(sixth entry)

the first stage retarders are

$2\Gamma(\varphi_2=34^\circ), \Gamma(\varphi_1=11^\circ)$

the second stage retarders are

$\Gamma(90 - \varphi_1), 2\Gamma(90 - \varphi_2)$

Actually, the first through seventh designs apply, where it will be appreciated that a crystal oriented at  $\varphi$  is equivalent to a crystal oriented at  $\varphi \pm 180^\circ$ .

Similarly, claim 7, sixth tabulated row reads on Sharp's Table I, third and sixth entries where  $m_2=m_1=0$  and  $k_1=k_2=0$ .

Claims 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang, et al (U.S. Patent number 6,441,960). Referring *for example* to Figures 4A – 4C, and Figure 7 along with associated text, Wang, et al disclose first (403) and second (407) "interleavers" wherein the dispersion versus wavelength characteristic of the first interleaver is effectively canceled with the dispersion versus wavelength characteristic of the second interleaver. In terms of the claimed structure,

the first stage phase delays are

$\Gamma(\varphi_1=45^\circ)$  and  $2\Gamma(\varphi_2=-15^\circ)$ ; while

the second stage phase delays are

$2\Gamma(\varphi_2=-15^\circ)$  and  $\Gamma(\varphi_1=45^\circ)$ .

Wang, et al teach that upon entering the second stage, all of the components are "orthogonal" with respect to their SOP at the first stage input. Thus claim 7, third tabulated line, reads on this embodiment, wherein the second stage orientations are  $+\varphi_2$  and  $+\varphi_1$ , respectively. For the same reason, claim 7, second tabulated line reads on the prior art with  $m_1=m_2=0$  and  $k_2=k_1=0$ .

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***Allowable Subject Matter***

The previous indication of claims 3 and 4 as containing allowable subject matter is withdrawn in light of newly discovered prior art to Sharp, et al. The examiner regrets the delay in applying this reference, and apologizes for any inconvenience.

***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 3 and 4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 15 of U.S. Patent application serial No. 10/016,784. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 3 and 4 generically tabulate values for the phase delays and angular orientations more specifically recited in copending claim 15. That is, claims 3 and 4 generically dominate the copending species claim. Thus, a structure which infringes the copending claim, necessarily infringes application claims 3 and 4.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Response to Amendment***

The previous drawing objection under 37 CFR 1.83(a) is withdrawn in view of Applicant's remarks.

The cancellation of claims 2 and 5 obviates their continued rejection under 35 U.S.C. §112, first paragraph.

Applicant's amendment of claim 3 is sufficient in overcoming the previous rejection thereof under §112, second paragraph. The cancellation of claims 2 and 5 obviates their rejection on these grounds.

The cancellation of claim 1 obviates its continued rejection under 35 U.S.C. §102(e) as being anticipated by Cheng, et al (U.S. Patent number 6,396,609).

The cancellation of claims 1, 2, and 5 obviates their continued rejection under §102(e) as being anticipated by Wang, et al (U.S. Patent number 6,441,960).

Applicant is correct in noting that the double patenting rejection is provisional. However, the last office action of copending U.S. Patent application serial number 10/016,784 (mailed December 12, 2002) indicated that copending claim 15 was objected to only for depending from a rejected claim and that it would be allowable if rewritten in independent form. Although claims 3 and 4 are now rejected over the prior art, a double-patenting rejection has again been entered in the interest of compact prosecution. This application will not pass to issue until the matter is resolved.


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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Juba whose telephone number is (703) 308-4812. The examiner can normally be reached on Mon.-Fri. 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Drew Dunn can be reached on Mon.- Thu., 9 - 5. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
JOHN JUBA  
PRIMARY EXAMINER  
Art Unit 2872

September 2, 2003